



BROOKHAVEN BULLETIN

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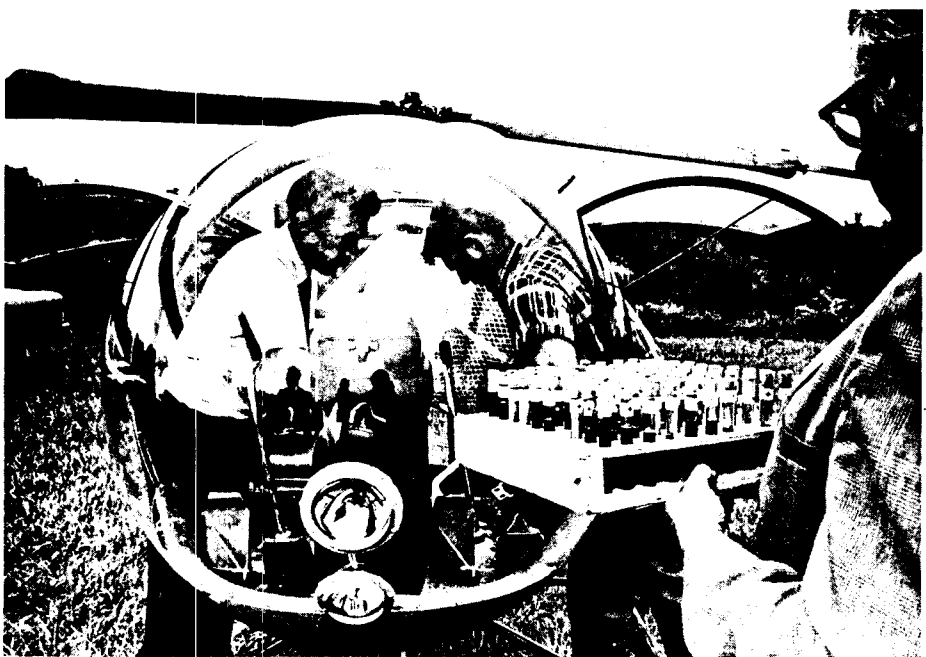
BNL Meets Blood Crisis



Nurse Kathleen Carolan checks on Thom Albertina as he gives blood for the BNL Blood Program on Tuesday. Albertina and George Woodson (inset) were part of the 900 special people who gave blood at the Lab in preparation for the blood crisis that occurs each year during the July Fourth weekend. —Humphrey



Donors wait their turn for a physical examination before giving blood.



Some of the BNL blood was flown to New York City in a helicopter piloted by Dr. Frank Calabro, Jr. of Mastic Beach. Assisting Dr. Calabro (left) is John Hamill of the Physics Department who ties down the blood containers. A technician holds a tray of blood samples that were also sent.

Brookhaven Laboratory Blood Circulates in 70-Mile Lifeline

With the aid of two helicopters, 16 gallons of blood from 128 BNL employees flew quickly and directly to New York City for special processing in its life-saving mission on June 29 and 30.

The 16 gallons were randomly selected from 925 pints donated. The other 100 or so gallons will remain as whole blood for Long Island use.

For the first time from so far out on Long Island, some of the blood received from donors was collected in "quad" packs, loaded into special refrigerated quad units on board one of two helicopters at the Laboratory, and flown to Pan Am's East 60th Street Heliport in New York City where drivers were waiting to whisk it immediately to the blood processing center at 310 East 67th Street. There it was processed into different fractions and distributed to meet the special needs of patients at various hospitals in the greater New York area.

Time was of essence. No more than four hours could elapse, and the less time the better, between taking blood from a donor and processing it into its various components. Once processed, the fractionated blood must be used within 24 hours. In this manner, one pint could serve the needs of several patients.

For example, leukemia patients need particularly the platelets, burn victims need plasma, pregnant women with measles need the gamma globulin, and patients undergoing open heart surgery may need special amounts of other blood components.

Often these kinds of patient care are scheduled according to the availability of the blood components that are needed. The "quad" service is provided by the Greater New York Blood Program, which was formed when the blood programs of the American Red Cross and the Community Blood Council were merged in New York City.

In the "quad" method, the blood, upon arrival at the blood processing center, is separated immediately into different fractions which are stored in the four sterile bags comprising the "quad" pack. The first bag contains only red blood cells which remain after the other components have been separated by a centrifuge.

The plasma, minus the red cells, is spun again, leaving the platelets in bag number two. With the remaining plasma, there is a choice of either separating out the white cells, leaving protein-rich plasma for further processing, or freezing the plasma overnight and the next day removing the cryoprecipitates, or clotting elements, that are vitally needed by hemophiliacs.

Two helicopters were used, one privately owned and flown by Dr. Frank P. Calabro of Mastic Beach and the other donated by Hel-air Copters Ltd. On both June 29 and 30, one helicopter left the lab at 12:30 p.m. and the other at 2:00 p.m. for the approximate 40-minute ride to the city.

Each helicopter carried two refrigerated "quad" units with 16 pints of blood in each unit. This number was determined by the capacity of the helicopters.

Pan American World Airways, operator of the East 60th Street Heliport (Metropolitan East), cooperated in this effort by granting permission for the privately operated helicopters to land without the usual landing fee.

Hospitality Committee members helped with registration of donors and acted as hostesses and guides on both days. They include Norma Chernick, Jackie Newman, Marge Ehrenson, Betty Cronkite, Mildred Redman, Charlotte Earle, Sally Rathvon, Betsy Britton, Jean Lankshear, Ann Church, Marilyn Shellabarger, Phyllis Shreeve, and Grace Cohen.

LI Airports Limousine Now Serves Brookhaven

Direct service to JFK and LaGuardia airports is now being supplied by LI Limousine service on a scheduled basis from the main gate of Brookhaven hourly throughout the week.

The limousines will leave the Lab starting at 7 a.m. and 8 a.m. From 9:25 a.m. to 8:25 p.m. they will make pick-ups every hour. The fare for one way from Brookhaven to either airport is \$13.50 with a 10% discount for round trips.

A free courtesy phone in the baggage claim area of each airport can be used to arrange for pick-ups for the return trip.



Early Birds, Don Jackson and Bob Schmidt chat with Hospitality Lady Jackie Newman before giving blood.

On Tuesday, June 29, approximately 36 volunteers from the Huntington, Smithtown and the Hamptons units of the Suffolk County Chapter of the American Red Cross aided in registration of donors, taking temperatures and pulses, working in the donor room, and serving refreshments. On the second day a comparable number of volunteers from the Babylon and South Suffolk units helped out with blood donations.



Charles Boulin displays evidence that he gave blood.

Approximately 15 American Red Cross Youths from Brentwood North Junior High assisted the first day, as well as about 20 more youths from Brentwood West Junior High worked the second day at BNL.

The timing of the donations was planned to supply the needs for the July Fourth weekend.



Red Cross Volunteers lay out "quad" packs before starting the donors on Tuesday morning.



Blood Chairman Alf Christoffersen (center) keeps the registration desk moving smoothly as donors pour in in a steady stream.



Volunteer Evalyn Easterbrook checks in for Red Cross duty at the BNL gate with Patrolman Roosevelt Lee.



Pat Glynn sets up signs at entrance road at the end of Tuesday's session.



Blood donors stop to register at the entrance to the gym.

Accelerator And Medicine
Join In Tumor Research

The view that research facilities are useful only to the scientists and particular discipline for which the facility was designed and built is being dispelled more and more at Brookhaven National Laboratory.

In a report given yesterday at the 18th annual meeting of the Society for Nuclear Medicine in Los Angeles, it was revealed how a cooperative effort between the Department of Applied Science, the Accelerator Department and the Medical Department, the Upstate Medical Center in Syracuse, New York, and the University of Iowa is resulting in new and improved radioisotopes for medical applications.

The report, given by Dr. Elliot Lebowitz and co-authored by Margaret Greene, Powell Richards, and Mary Kinsley, of the Department of Applied Science, specifically mentioned two radioisotopes, dysprosium-157 and bismuth-204, which are produced at Brookhaven using the 60-inch Cyclotron and the Hot Laboratories facilities.

Dysprosium-157 (half-life of 8½ hours) has the earmarks of being a superior isotope for externally visualizing the skeleton and bone marrow and associated diseases. Using 33 MeV protons at the 60-inch Cyclotron, the researchers were able to produce in quantity Dy-157 that was high in its specific activity, radiopurity and chemical purity.

The bone-imaging qualities of Dy-157 are currently being evaluated at the Upstate Medical Center in Syracuse. Although the highest yield can be obtained using a higher energy accelerator such as the 60-inch Cyclotron, it was reported that practical quantities can be produced using lower energy accelerators which are available commercially.

The other isotope, bismuth-204 (half-life of 11.2 hours), has an unusually high tumor to non-tumor ratio in the brain according to results from animal (mice) studies. Thus, it has great potential for diagnosing tumors. The ratio can go as high as 100-to-one, meaning that a tumor will take up to 100 times more bismuth-204 than the surrounding healthy tissue. The usual brain-tumor scanning agents previously used have a ratio of around 20-to-one.

Although none of the radioisotopes of bismuth are ideal as brain tumor scanners, bismuth-204 appears to have the most potential. It is difficult to produce and its source is virtually restricted to proton energies such as are available in the 60-inch Cyclotron. Clinical evaluation studies are being carried out at the University of Iowa.

Old Timer Retires

Joe Misiano, 55, Supply & Materiel Foreman, who has been at Brookhaven National Laboratory since March 21, 1947, has retired after 24 years in the Supply & Materiel Division. He and his wife Theresa are planning a move to Florida.

Freedom Award



Cadet Lt. Robert Cammaroto (center), son of Frances Cammaroto, Director's, was awarded a Freedoms Foundation Honor Medal at a ceremony arranged before a tour of Brookhaven by members of the Long Island Communicators Association. With the proud cadet are his mother, Frances (right) and Ken Wells of the Freedoms Foundation.

Sporn Gives Seminar

In his keynote lecture June 23, Philip Sporn, engineer and a public utility executive, outlined four aspects of the energy picture including energy demand, its availability, environmental problems, and the costs of bringing about compatibility between the supply and environmental quality.

Mr. Sporn asserted that social and technical fallacies have influenced research and legislation in the energy field. The first of these is that the trend of rapid energy growth will double every 10 years. In fact, he pointed out, one utility company stated that it had doubled in only six years.

A second falsehood is that sulfur dioxide is the great atmospheric polluter and society must therefore limit sulfur use. Another misconception that he discussed is that water is believed to be indispensable as a cooling agent or "heat sink." In this case, a dry-cooling tower may be the best solution, the lecturer suggested, yet then there would be an aesthetic pollution problem.

A dangerous fallacy is that our society has reached a plateau on the downward trend of energy costs. Mr. Sporn predicted an \$8.6 billion yearly cost by the year 2000; and he suggested the exploration and development of new ideas such as the atomic breeder and nuclear fuel.

He was hopeful that current fears about the environment will settle down soon to an understanding of the true picture. His answers to these problems lay in research and in a tax on energy for every customer in the United States to provide for this research.

Mr. Sporn was the first speaker in a series of ten seminars aimed primarily at the summer students. The next speaker will be Sherman Knapp, Chairman of the North East Power Coordinating Council, at 3:00 p.m., Thursday, July 1, in Berkner Hall.

Myth and Marriage
In Month of July

A program of two one act plays under the general title "Myth and Marriage" will be presented by the BERA Theatre Group in Berkner Hall on Friday July 9, Thursday July 15, and Friday July 16. The two plays are "Helenas Husband" by Philip Mueller and "The Golden Fleece" by A.R. Gurney, Jr.

The performances will begin at 8:30 p.m. The admission charge, payable at the door, will be \$1.50 (Under 18 \$.75). Watch the Bulletin for further details.

Letters
To The Editor

Dear Sir:

We wish to thank all those who arranged for, and those who came to our Retirement Luncheon on June 23. We appreciate your thoughtfulness very much.

T.V. Sheehan
Al Oltmann

Arrivals & Departures

Arrivals

Dwight E. Richards Physics

Departures

Louise Angelone Physics
Robert H. Flora Accelerator
Douglas P. Fay Chemistry
Salvatore Galante Central Shops
Frances Gallagher Physics
Edna D. Rea Instru. & H.P.
Joseph L. Rea Instru. & H.P.
William Sneed Supply & Materiel
Norman A. Whitney Accelerator

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NORBERT J. DERNBACH
Public Relations Officer

Weekly Calendar

Thursday, July 1

BNL Summer Seminar 3:00 p.m., Berkner Hall, 11 Brookhaven. Ave.
Review of the Electric Power Situation in the Northeast, 1971-80
Sherman Knapp, Northeast Power Coordinating Council

Wednesday, July 7

Chemistry Seminar 3:30 p.m., Chem. Seminar Rm., 33 Lewis Rd.
Potential Energy Surfaces for Reactive Molecular Systems
K. Morokuma, University of Rochester

Thursday, July 8

Biology Seminar 11:00 a.m., Biology Library, 50 Bell Ave.
In Vitro Transcription of SV40 DNA
Allan H. Fried, The Wistar Institute

Particle Physics Seminar 11:00 a.m., Seminar Rm., 20 Pennsylvania Ave.
Report on Dubna Conference on Two-Body Hadronic Interactions
J. Orear, Cornell University

BNL Summer Seminar 3:00 p.m., Berkner Hall, 11 Brookhaven Ave.
Population Exposure and Biological Effects of Radiation
Leonard Hamilton, Medical Dept., BNL; Vance Sailor, Physics Dept., BNL

Wednesday, July 14

Chemistry Seminar 3:30 p.m., Chem. Seminar Rm., 33 Lewis Rd.
Solid State Problems in Astrophysics
R. Smoluchowski, Princeton University

Diamond News

by Dean Easler

Metallurgy fell out of a share for first place last week in the Brookhaven League as they succumbed to AMD's pecking offense by a score of 7-5. Metallurgy hits came at the wrong times as solo home runs were hit by J. Erandon and the Rebel whose popup to left almost went as a four-base error. The official scorekeeper ruled that the ball was too high to handle thus keeping the Rebel's consecutive game home run hitting streak alive at five games in a row. Mr. Unknown had his streak stopped last week. The Old Timers had a bye last week and ended up in first place all by themselves as a result of the Metallurgy loss. It was also determined that the Dirty Sox had a bye as they fell before the Blue Jays by a score of 22-1. Short of men due to overtime schedules the Dirty Sox with eight men just couldn't do it. Tom Petty had one of the few Dirty Sox hits - a high fly ball which fell in behind Red Carstens on the mound.

National League games found the S&M squad defeat the Deadwoods 16-7. S&M had lots of power hitting again with homers by Gaucci, Mulderic, Leverock, Altrui and Spencer. Another big game found the Pop-Ups holding onto first place with S&M as they edged the Six-Pax by a 9-8 score. Excellent fielding by the Six-Pax (especially R. Meier) held the score 8-5 Six-Pax into the bottom of the 7th whereupon the Pop-Ups scored three runs to tie it up. Then with one out and the bases full Jack Baer lined a game winning hit to left center. This was a thriller. Filling the remainder of the National League action was a 17-11 Chemistry win over the Bubble Boys. Doug Fay who is moving to Oklahoma played his last game with Chemistry and went 3 for 5 with 4 RBI's. Ron Finn upped his team leading average to .762 while Dan Haas and Bob Spanburgh hit Chemistry round trippers.

Only one score reported from the Laboratory League and that was a squeaker 18-17 the Bio-Meds over the Phoubars. All team records were not received so only those that are known will be included in the league standings below:

Brookhaven	W	L
Old Timers	4	1
Metallurgy	3	2
Blue Jays	3	2
AMD	2	3
Dirty Sox	1	4
National		
S&M	5	1
Pop-Ups	4	1
Six-Pax	4	2
Chemistry	3	3
Bubble Boys	1	5
Deadwoods	0	6

Lost & Found

LOST - Mini brown male poodle, in Brkhvn, South Country Rd-Beoverdam vicinity, hit by car, needs medical attention, reward. Ext. 395, 286-3928.

Cafeteria Art



Sidney Guberman's exuberant "Chester Bump" has made a significant contribution to the artistic atmosphere of the Cafeteria as well as to many lunch-time conversations. A large part of its success as a painting derives from its combination of lively color with solid, geometric, hard-edge design, carried out with both the panache and the craftsmanship that that combination deserves. Guberman who now lives in Philadelphia studied painting at Princeton University and at the University of Pennsylvania. His work has been shown in numerous one man shows throughout the country and at the Corcoran Gallery and the National Collection of Fine Arts in Washington.

Summer's Here



Summer - 1. The season between spring and autumn comprising in the northern hemisphere, usually the months of June, July, and August or as reckoned astronomically extending from the June solstice to the Septem-



ber equinox. 2. The warmer half of the year. 3. Year. 4. A period of fulfillment. . . . Webster's Seventh New Collegiate Dictionary.

Photos by Humphrey

Mixed Softball

by Georgia Irving

June 22, 1971 marked the evening of the Saints first loss this season. Chemistry won 6-5 thanks to home runs by Doug Fay and John Crump and good fielding by first baseman Dave Comstock and Captain De De Seay. Dave caught a line drive at first and De De stopped a ball to throw out a speedy runner at first.

The Saints famous husband-wife team of Vernon and Ruth Faine ran down one of Chemistry's fastest base runners to rob Dale Haas of a home run between third and home plate. I have heard that Ruth and Vernon have been practicing this play at home in their spare time.

The second game between the Gotcha's and the Mixed-Ups was a riot. After deciding to forfeit the game to the Gotcha's due to a mixup on the roster, the Mixed-Ups went on to play another long second game. Only 7 innings but it lasted until 8:30 and after 7:00, when the fog rolled in, it was anybody's guess what was really happening in the outfield. If this keeps up we'll need flood lights on field 4!

What started out as a disaster turned into one of the funniest games of the year. In the last inning base runners on the Mixed-Ups were trading positions with the first baseman of the Gotcha's who in turn ran the bases. This really surprised the second and third basemen who found themselves trying to tag a fellow teammate who, because of the fog, they didn't recognize until they made the tag. This game was naturally played out just for the fun of it and I'm sure everyone there had fun. It was even suggested that each week one team volunteer to forfeit. I doubt, however, that this suggestion will be taken seriously.

Summer Basketball

After the third week of league play the standings are:

	W	L
Gazelles	2	1
Power	2	1
Commanceros	2	1
Black & Blues	0	3

In Monday night's first contest the Gazelles combined balanced scoring and vicious rebounding to hand Power its first loss 39-33. Pete Stillman and Andy Fogarty scored 12 apiece for the victors while Jim (The Shot) Hooper tallied 18 for Power. The second game saw the Commanceros defeat the Black & Blues in a high scoring battle (i.e., no defense) 58-51. Ed Taylor led the winners with 19 points and Ed Gill contributed 12. Captain Les Lawrence of the Black & Blues set a new league scoring mark for points scored (as well as shots taken) in one game with a fine 30 point effort.

Archery

Three BNL archers participated in the Mid-Atlantic Sectional Archery Tournament. The event took place in Pikesville, Maryland on June 19th and 20th.

Carl Cantera did fairly well in Class "B". Joe Bauernfeind did very well in Class "A" among some of the top archers in the country. Joe listed among the top ten (10). However, all the accolades should go to Bob Lundgren of the Physics Design Group for placing 2nd in the Class "B" Group with scores of 485 (Hunter) 522 (Animal) and 466 (Field). Many a Class "A" archer would be happy with such scores. In fact Bob earned himself a promotion and now must compete in Class "A".

There were 336 participants from 8 states, mostly southern states where archery is taken quite seriously.

The next competition will be at Watkins Glen on August 8th in the New York State Championship. Maybe lady luck will smile upon the BNL archers once again.

—Carl Cantera

Free Concert Tuesday

The Town of Brookhaven Council on the Arts will sponsor a concert of country and western music with Sonny Campbell at 8:15 p.m., Tuesday, July 6, at BNL.

Having no admission charge, the concert is open to all residents of the Brookhaven Town, employees of the Lab and their family and friends.

Listeners will bring their own blankets and chairs, as the performance will be outside in the field opposite Cavendish Hall between the Brookhaven Center and the guest house.

French Group Reading

The BNL French Group plans an informal reading of Eugene Ionesco's successful and provocative play, "Rhinoceros", at 8:15 p.m., Wednesday, July 7, in the cafeteria conference center.

Probably Ionesco's best-known play, an English version of "Rhinoceros" had a successful run on Broadway some years ago, featuring Zero Mostel and Eli Wallach.

All who are interested in French language and literature are invited to come to the next meeting, including summer visitors and students. Admission for non-members is \$1.50.

Folk Dancing

The Polish Krakowiak, Yugoslavian Kolos, the Swedish Hambo, the Greek Syrtos, and many other interesting dances can be yours to learn this summer. The BNL Folk Dance group will start a summer program of dancing and teaching on Wednesday, July 7, at 8:00 p.m. at the Recreation Hall. Sessions will be held regularly thereafter every Wednesday night. Dancers with all levels of experience are welcome - the only essential requirement is enthusiasm. For details call W. Kane, Ext. 7635, or 286-9450.

Dutch Students Visit



Part of a group of 38 students and faculty members of the University of Vrije, The Netherlands, are shown being briefed on the operation of the magnet room of the Dynamitron. Al Goland (lower left) showed the students around as part of their tour of educational institutions in the United States.

